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## Optical and transport properties in pnictides: anomalous effects due to interband interactions

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The occurrence of superconductivity in pnictides renewed in the last year the interest in the physics of multiband superconductors. However, what makes the case of pnictides very peculiar is the fact that interactions have mainly an interband character, as due to exchange of spin fluctuations between hole and electron pockets. These two characteristics make the theoretical description of pnictides much more involved than what is usually believed, forcing us to revise our standard paradigms for correlated electron systems. In this talk I will review some of our recent results based on a multiband model with retarded interactions treated within Eliashberg theory. In particualr I will discuss the redistribution of spectral weight between coherent and incoherent optical processes, that leads to an anomalous temperature dependece of the sum rule. L will also show that when the memory dependence of the interaction is taken into account

the sum rule. I will also show that when the momentum dependence of the interaction is taken into account explicitly the vertex corrections to the quasiparticle current lead to a predominant hole or electron character of the transverse conductivity, explaining the

experimental results on the Hall effect.

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